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<u>CLAIMS</u>

1. A method comprising steps of:

covering a first semiconductor die area, said first semiconductor die area including a first dielectric area, said first dielectric area having a first permeability;

interspersing a permeability conversion material in a second area of said semiconductor die, said second semiconductor die area including a second dielectric area, said permeability conversion material having a second permeability, said second permeability being higher than said first permeability.

- 2. The method of claim 1 wherein said covering step comprises covering said first semiconductor die area with photoresist.
- 3. The method of claim 1 wherein said first dielectric area comprises silicon dioxide.
- 4. The method of claim 1 wherein said first dielectric area comprises a low-k dielectric.
- 5. The method of claim 1 wherein said second dielectric area comprises silicon dioxide.
- 6. The method of claim 1 wherein said second dielectric area comprises a low-k dielectric.

- 7. The method of claim 1 wherein said permeability conversion material is selected from the group comprising of nickel, iron, nickel-iron alloy, and magnetic oxide.
- The method of claim 1 wherein said step of interspersing is performed by implanting said permeability conversion material in said second area of said semiconductor die.
 - 9. The method of claim 1 wherein said step of interspersing is performed by sputtering said permeability conversion material on said second area of said semiconductor die.
 - 10. The method of claim 1 further comprising a step of patterning a conductor within said second dielectric area, said conductor forming an inductor.
 - 11. The method of claim 10 wherein said conductor is selected from the group consisting of copper, aluminum, and copper-aluminum alloy.
 - 12. The method of claim 10 wherein said conductor is patterned as a square spiral.
 - 13. The method of claim 10 wherein said permeability conversion material is selected from the group comprising of nickel, iron, nickel-iron alloy, and magnetic oxide.

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- 14. The method of claim 10 wherein said step of interspersing is performed by implanting said permeability conversion material in said second area of said semiconductor die.
- 15. The method of claim 10 wherein said step of interspersing is performed by sputtering said permeability conversion material on said second area of said semiconductor die.
 - 16. A method comprising steps of: patterning a conductor within a dielectric;

interspersing a permeability conversion material in said dielectric, wherein said permeability conversion material has a permeability greater than a permeability of said dielectric.

- 17. The method of claim 16 wherein said dielectric comprises silicon dioxide.
- 18. The method of claim 16 wherein said dielectric comprises a low-k dielectric.
- 19. The method of claim 16 wherein said permeability conversion material is selected from the group comprising of nickel, iron, nickel-iron alloy, and magnetic oxide.

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- 20. The method of claim 16 wherein said step of interspersing is performed by implanting said permeability conversion material in said dielectric.
- 21. The method of claim 16 wherein said step of interspersing is performed by sputtering said permeability conversion material on said dielectric.
 - 22. The method of claim 16 wherein said conductor is selected from the group consisting of copper, aluminum, and copper-aluminum alloy.
 - 23. The method of claim 16 wherein said conductor is patterned as a square spiral.
 - 24. A structure in a semiconductor chip, said structure comprising:
 a first area of a dielectric, said first area of said dielectric having a first
 permeability;

a second area of said dielectric, said second area of said dielectric having a second permeability, said second permeability being higher than said first permeability; a conductor patterned in said second area of said dielectric.

- 25. The structure of claim 24 wherein said dielectric is silicon dioxide.
- 26. The structure of claim 24 wherein said dielectric is a low-k dielectric.

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27. The structure of claim 24 wherein said second permeability is achieved by interspersing a permeability conversion material within said second area of said dielectric, said permeability conversion material having a third permeability, said third permeability being greater than said first and second permeabilities.

- 28. The structure of claim 27 wherein said permeability conversion material is selected from the group consisting of nickel, iron, nickel-iron alloy, and magnetic oxide.
- 29. The structure of claim 24 wherein said conductor is selected from the group consisting of copper, aluminum, and copper-aluminum alloy.
- 30. The structure of claim 24 wherein said conductor is patterned as a square spiral.
 - 31. A structure in a semiconductor chip, said structure comprising: a dielectric having a first permeability;
- a permeability conversion material having a second permeability, said permeability conversion material being interspersed within said dielectric, wherein said second permeability is greater than said first permeability;
- an inductor comprising a conductor patterned within said dielectric, said conductor having first and second terminals, said first and second terminals of said conductor being respectively first and second terminals of said inductor.

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- 32. The structure of claim 31 wherein said dielectric is silicon dioxide.
- 33. The structure of claim 31 wherein said dielectric is a low-k dielectric.
- The structure of claim 31 wherein said permeability conversion material is selected from the group consisting of nickel, iron, nickel-iron alloy, and magnetic oxide.
 - 35. The structure of claim 31 wherein said conductor is selected from the group consisting of copper, aluminum, and copper-aluminum alloy.
 - 36. The structure of claim 31 wherein said conductor is patterned as a square spiral.